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Korea Forest Products Market Report 2001

Prepared by K. S. Kim, State Trade Representative for Korea
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Report Highlights:

The value of Korea's timber import has been increased continuously and was $1.6 billion USD in 2000, up 11.7% from 1999. Meanwhile, Korea's demand for timber is projected to reach 10,935 mmbf in 2001, a 2.7% increase over 2000. The import of forest products should increase to meet the rising demand in the housing and furniture sectors.

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I. Overview of Korea's Forest Resources

1. Forest Environment

Korea is a peninsula located in Far East Asia, bound on most of its northern border by China and partly by Russia. The Korean Strait separates the peninsula from Japan. Mountains cover most of the north central region with the 'Taebaek' Mountain Range extending along the east coast.

Korea has a temperate climate characterized by summer monsoons and continental winters with freezing weather. Seasonal changes are gradual but distinctive; spring and autumn are relatively short, while summer and winter are rather long. The annual mean temperature extends from 3^{o}C to 16^{o}C and the annual precipitation ranges from 600 to 1,600 millimeters. Due to its diverse distribution of climatic conditions, Korea exhibits various types of forests.

Forest in Korea can largely be divided into warm-temperate, cool-temperate, and frigid forest zones.

Warm-temperate Forest Zone

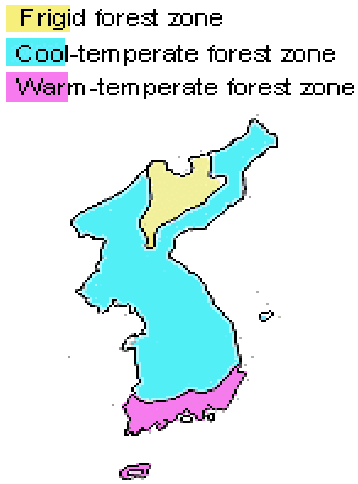
This zone covers the southern coastal region, Cheju Island, and a large number of small southern islands where the annual mean temperature is higher than 14^{o}C (57^{o}F). Evergreen hardwood forests are typical, however, the majority of natural forests were destroyed by over-exploitation and forest fires. Subsequently they were transformed into deciduous hardwood forests, mixed forests, and pine forests. The dominant species are red oak and camellia.

Cool-temperate Forest Zone

This zone is located between 35° and 43° north latitudes with the exception of the mountainous highlands. The annual mean temperature ranges from 6^{o}C (43^{o}F) to 13^{o}C (55^{o}F). Deciduous hardwood forests are representative, but most stands were destroyed and transformed into pine forests. The dominant species are oak, white birch, zelkova tree, ash tree, Korean red pine, Korean pine, and Japanese black pine.

Frigid Forest Zone

This zone covers the northern extremity of Korea and high mountain areas where the annual mean temperature is below 5^{o} C (41^{o}F). The representative forests are softwood, though most stands have been destroyed by over-exploitation and forest fires (some of these stands were transformed into mixed forests). The dominant species are fir, spruce, oak, wild walnut, and whitle birch.

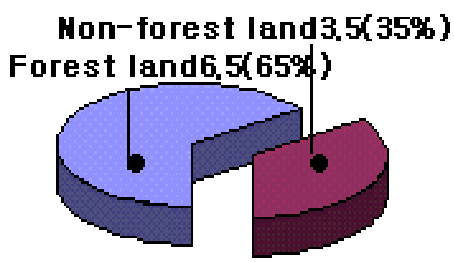


Forest Distribution

(Source: Korea Forest Service, Seoul, South Korea)

2. Forest Resources

Total forested area, approx. 6.5 million hectares (HA*), account for 65% of the total land area. However, the forested land per capita is quite low at 0.2 ha, only one quarter of the world average. The annual timber supply remains around 1.5 million cubic meters.



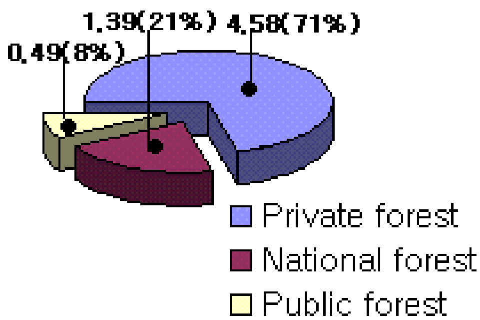
Land *(Unit: million HA*)*

(Source: Korea Forest Service, Seoul, South Korea)

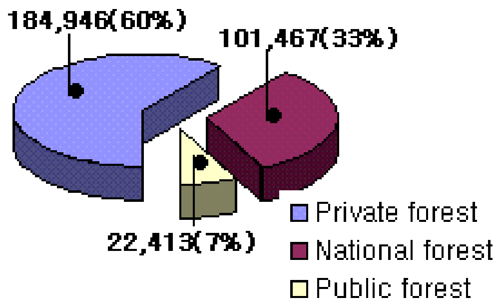
* 1 hectare (HA) =10,000 cubic meters, approximately 2.4 acres.

3. Forest Ownership

Forested areas are classified into national, public and private forests by ownership and are classified into reserve and semi-reserve forests according to utilization.



Forest Ownership *(Unit: million HA)*



Growing Stock *(Unit : 1,000?)*

(Source: Korea Forest Service, Seoul, South Korea)

National Forest

22% of the total forest is a national forest, which is mainly managed by the Regional Forest Management Office. The national forest is divided into two categories, permanent and disposable. Most of the national forest consists of permanent forest, which is managed for land conservation, forest management, scientific research, development of forestry techniques, preservation of both historical relics and tangible cultural heritage, and other public benefits. The remaining national forest is disposable forest, and may be converted to other uses.

Public Forest

Forest owned by local governments and public organizations (i.e. schools) is classified as public forest, and constitutes approx. 7% of the total forest.

Private Forest

The private forest constitutes 71% of the total forested areas. There are approx. two million private forest owners. However, 96% of the owners own less than 10 HA of forest.

II. Korea’s Timber Market

1. Timber Demand & Supply Plan for 2001

The long-term outlook for timber demand and supply plan is established to promote stable timber demand and supply. According to the forecast by Korea Forest Service, the timber demand for domestic use will continuously increase due to the dynamics of the population and economic development. However, the growth rate of timber consumption will be reduced in the next few years. Demand for general timber products and plywood is projected to increase while the demand for pit-prop is expected to decrease as a result of the decline in the coal industry. Most timber has been supplied by foreign sources and the rate of timber self-sufficiency is projected to reach 5.6% in 2001. In order to establish a stable long-term timber supply, the Korean government has devoted its effort to increase domestic timber resources and to further diversify overseas forest development.

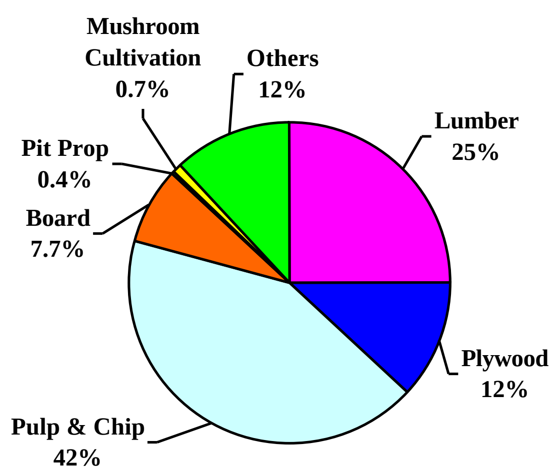
According to Korea's timber demand and supply plan for 2001 released by Korea Forest Service, the total demand for Korea's forest products is projected to reach 25,851,000 m^3 (approx. 10,934,973,000 board feet) in 2001, which is 2.7% up from the previous year. The projected demand for 2001 will be met by the following supply:

Demand in 2001:	25,851,000 m^3 (10,935 mmbf)
Supply in 2001:	
Import	24,411,000 m^3 (10,326 mmbf)
Domestic	1,440,000 m^3 (609 mmbf)

The imported timber is expected to account for 94.4% of the total demand in 2001, with locally produced timber at 5.6%

By use, the demand for pulp and chip is projected to reach 10,894,000 m^3 (42%), lumber 6,456,000 m^3 (25%), plywood 3,103,000 m^3 (12%), board 1,988,000 m^3 (8%), and pit-prop 108,000 m^3 (0.4%).

Korea's Demand for Timber in 2001



(Source : Korea Forest Service)

While the demand for lumber is expected to decrease due to a slump in the construction industry, the demand for pulp and chip and raw material for paper is likely to increase at a continuous rate. In an effort manage timber demand and supply flexibility, the Korea Forest Service has announced plans to secure W 1.5 billion (approx. $ 1.2 million USD) as a saving fund for log purchases in 2001.

Because Korea depends on foreign supply for most of its timber, the government plans to actively initiate overseas forest development in an effort to create a stable long-term supply of timber resources. To do this, the Korean government plans to finance W 12.2 billion (approx. $ 9.4 million USD) this year to Korean companies for development of overseas forests.

Korea's Timber Supply and Demand Plan for 2001

(Unit: 1,000 m^3)

Supply / Demand		Total			Local Timber	Import		
		Total	Log	Others		Total	Log	Others
Total	**Total**	**25,851**	**8,918**	**16,933**	**1,440**	**24,411**	**7,478**	**16,933**
	Lumber	6,456	5,613	843	163	6,293	5,450	843
	Veneer& Plywood	3,103	915	2,188	0	3,103	915	2,188
	Pulp &Chip	10,874	376	10,518	376	10,518	0	10,518
	Board	1,988	804	1,184	442	1,546	362	1,184
	Pit prop	108	108	0	108	0	0	0
	Mushroom Cultivation	182	182	0	182	0	0	0
	Others	3,120	920	2,200	169	2,951	751	2,200
Domestic Use	**Total**	**25,569**	**8,636**	**16,933**	**1,440**	**24,129**	**7,196**	**16,933**
	Lumber	6,440	5,597	843	163	6,227	5,434	843
	Veneer & Plywood	2,880	692	2,188	0	2,880	692	2,188
	Pulp &Chip	10,894	376	10,518	376	10,518	0	10,518
	Board	1,945	761	1,184	442	1,503	319	1,184
	Pit prop	108	108	0	108	0	0	0
	Mushroom Cultivation	182	182	0	182	0	0	0
	Others	3,120	920	2,200	169	2,951	751	2,200
Export	**Total**	**282**	**282**	**0**	**0**	**282**	**282**	**0**
	Lumber	16	16	0	0	16	16	0
	Veneer	223	223	0	0	223	223	0
	Board	43	43	0	0	43	43	0

(Source: Korea Forest Service)

Since the financial turmoil in 1997, the supply of domestic timber has increased, primarily a result of to the decline in timber imports. In 2000 this changed due to the upswing of the Korean economy and an increase of domestic timber production costs. Consequently, the local supply began to decrease in 2000 and is expected to continue slightly in 2001.

Supply and Demand of Domestic Timber by Year

(Unit: 1,000 m^3)

Classification	1997	1998	1999	2000(estimate)	2001(projected)
Supply	1,062	1,428	1,694	1,486	1,440
Demand for:					
Lumber	449	495	621	574	514
Pulp & Chip	367	406	410	396	376
Board	142	417	546	416	442
Pit-Prop	104	110	117	100	108

(Source: Korea Lumber Industry Cooperative, Seoul, South Korea)

Korean imports of forest products reduced sharply in 1998 due to the weak Korean won - after the IMF crisis and recession. However, as a result of economic recovery of the Korean and stable exchange rate, the import of forest products reached 26,122,000 m^3, which was 40.0% up from 1998. According to Korea Forest Service project, Korea's import of forest products is expected to increase by 0.3%. By use, the lumber import is likely to reduce due to slump in construction business and replacement of iron products. Korea is expected to maintain the import of forest products for plywood as it did last year. Meanwhile, the import of pulp and chip is estimated to go up due to increase in paper consumption.

Supply and Demand of Imported Timber by Year

(Unit: 1,000 m^3)

Classification	1997	1998	1999	2000(estimate)	2001(projected)
Supply	25,390	18,653	26,122	23,689	24,411
Demand for:					
Lumber	11,768	9,059	12,977	9,359	9,244
Plywood	4,209	2,143	2,776	3,134	3,103
Pulp & Chip	7,953	6,949	8,985	9,482	10,518
Board	1,460	502	1,384	1,714	1,546

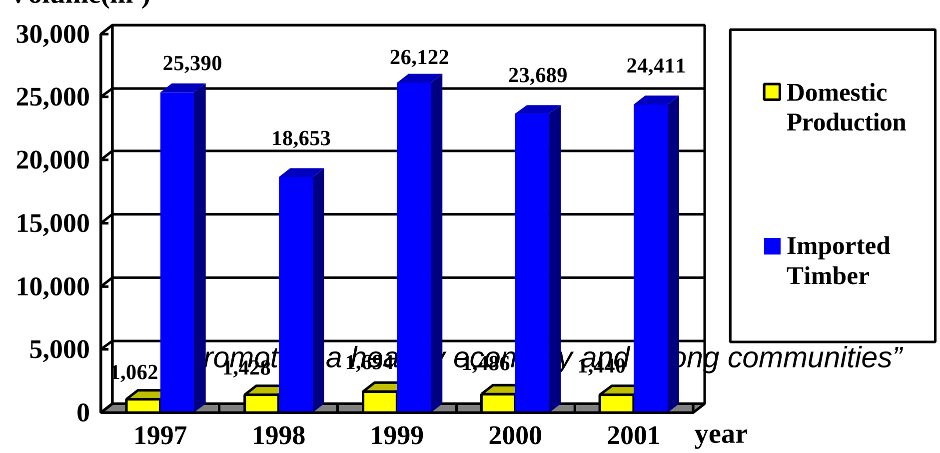
(Source: Korea Lumber Industry Cooperative, Seoul, South Korea)

2. Korea's Timber Import

Korea is mainly dependant upon its timber demand for overseas supply. Last year Korea's timber import reached 23,689,000 m^3 (approximately 10,000 mmbf), which was 94.1% of total demand in 2000. Korea's timber self-sufficiency rate is projected to reach 5.6% in 2001.

Timber Supply to Korea:
Imports vs. Domestic Production

(Source: Korea Forest Service)



Note: 1 m³ is approximate to 423 board feet.

Korea's timber import has been increased continuously with the exception of 1998 when Korea suffered from its financial turmoil. Last year, Korea's timber import increased to U$ 1.6 billion, up 11.7% over 1999.

Korea's Imports of Forest Products

(Unit: U$ 1,000, %)

Year	Value	Growth Rate
2000	1,568,296	11.7
1999	1,404,323	54.0
1998	911,917	-61.6
1997	2,375,574	-7.5
1996	2,568,326	-1.4
1995	2,605,841	8.0

(Source: Korea International Trade Association)

While the imports of fiberboard, plywood and particleboard increased, Korea's lumber import decreased in 2000. Korea's log import was increased by 2.5% to 6,746,000 m^3 (approximately 2,900 mbf) in volume and U$ 560 million in value in 2000. Softwood log accounted for 86% of total log import in 2000 and hardwood log 14%, which shows that the demand for softwood is on the increase.

Korea's Import of Main Forest Products : 2000 vs. 1999

(Unit: m³)

Classification		Import Volume		Growth Rate (%)
HSK	Item Description	2000	1999	
4403	Log	6,746,388	6,580,352	2.5
4412	Plywood	928,504	749,118	23.9
4407	Lumber	758,106	857,442	-13.1
4410	Particle Board	560,309	435,918	28.5
4411	Fiberboard	299,950	171,575	74.8

(Source: Korea Forest Service)

Note: 1 m³ is approximate to 423 board feet.

3. Competition

The limited local resources of forest products make Korea heavily rely on import. Indonesia was the largest supplier to Korea in 2000 with its export value of U$ 281 million. Malaysia was the second and New Zealand the third. The U.S. was the fifth largest supplier after China with its market share of 10.9%. The main forest products from the U.S. include log, lumber and chip.

Korea's Timber Import by Country

(Unit: U$1,000, %)

Rank	Country Name	1999		2000	
		Value	Growth Rate	Value	Growth Rate
	Total	**1,404,323**	**54.0**	**1,568,296**	**11.7**
1	Indonesia	260,036	47.1	281,347	8.1
2	Malaysia	189,841	43.8	230,896	21.6
3	New Zealand	215,112	47.1	226,085	5.1
4	China	140,814	61.4	172,535	22.5
5	U. S.	176,740	49.5	171,014	-3.2
6	Russia	74,693	64.7	102,672	37.5
7	Australia	48,841	133.5	69,997	43.3
8	Canada	30,316	130.6	43,640	44.0
9	Thailand	34,436	542.7	42,449	23.3

(Source: Korea International Trade Association)

The primary competition for U.S. softwood logs are tropical hardwood logs from Malaysia and Papua New Guinea, specifically the radiata pine from New Zealand and Chile. Russian softwood is also entering the market, mainly through barter deals with Korean trading companies.

In the lumber sector, the primary competition comes from Canada and New Zealand. The New Zealand Timber Industry Federation Inc. is actively promoting its radiata pine lumber. As the Korean market for wood frame houses is moving up, the EU, Finland, Canada and New Zealand are aggressively challenging the United States in this market. Canadian Forestry Industry Association constructed several demonstration 2X4 houses in Taejon area to promote softwood lumber exports and is planning to open a branch office in 2000. The Canadian Housing Mortgage Corporation is under agreement with the Korea Housing Institute to transfer technology and to develop 2X4 housing new golf courses and on greenbelt areas. The Canadian industry reportedly agreed to invest US$ 100 million for housing development.

III. Market Development Strategies

During 1999 and 2000 several significant regulatory changes occurred that necessitate closer review by Alaska companies to determine the extent of market opportunities for their forest products.

First, deregulation of apartment selling prices in 1999 is leading to greater demand for hardwood products by developers who are increasingly using wood based flooring to attract consumers. Their use of high quality, wood flooring is generating demand for hardwood interior accessories, such as kitchen cabinet, door, window and interior trimmings. An expanding market of wood based flooring in the high-rise residential apartments is creating new opportunities for hardwood veneer.

Second, zoning restrictions were removed allowing construction on land previously zoned for golf courses and for green-belt preservation. Green belts are undeveloped land along river systems - similar to urban flood zones in the U.S.

Third, the Korean building code restricts building height and total allowable floor area. Revision of the building code, a priority in the wood construction industry, is expected to enact by mid-2000. The proposed revision would allow wood frame constructed multi-unit buildings of up to three stories. According to the American Forest and Paper Association/Seoul office (AFPA/Seoul), the proposed revision will bring broader application of wood frame construction in multi-unit buildings.

The overall size of the domestic market is expected to expand with the country's economic recovery. Government deregulation on construction sector will encourage local wood related industries to meet higher demand of structural material, furniture and interior.

Attachments:

Korea's Import of Forest Products in 2000

Classification		2000 in Total			Market Share (%)
HSK	Item Description	Volume	Unit	Value ($)	
4401	Chips	1,495,383	m^3	83,500,970	2.9
4402	Charcoal	130,836	m^3	30,285,978	1.0
4403	Logs	6,746,388	m^3	560,398,771	19.4
4404	Wooden Sticks	499,596	kg	138,866	
4405	Wood Hour	3,711	MT	977,973	
4406	Railway Ties	619	m^3	147,703	
4407	Lumber	758,106	m^3	245,197,582	8.5
4408	Veneer	164,152	m^3	75,956,599	2.6
4409	Finished Lumber	32,517,206	kg	33,100,657	1.1
4410	Particle Board	560,309	m^3	70,860,756	2.5
4411	Fire Board	299,850	m^3	81,287,037	2.8
4412	Plywood	928,504	m^3	306,945,827	10.6
4413	Densified Wood	1,955	MT	2,420,628	0.1
4414	Wooden Frames	1,111,557	kg	3,147,649	0.1
4415	Packing Cases, Boxes, Crates	13,990,360	kg	7,393,150	0.3
4416	Casks	170,539	kg	269,999	
4417	Tools	3,850,935	kg	2,296,177	0.1
4418	Builders' Joinery	20,584,174	kg	28,851,829	1.0
4419	Tableware/ Kitchenware	19,607,660	kg	15,349,580	0.5
4420	Wood marquetry	1,918,467	kg	3,607,189	0.1

4421	Other Article of Wood	14,024,425	kg	16,167,229	0.6
4701~6	Pulp	2,165,829	MT	1,326,986,657	45.8
Total		121,530,661		2,895,288,626	100

(Source: Korea Lumber Industry Corporative)

Korea's Log Import in 2000

(Unit: Volume m³, Value $(CIF))

Classification / Country	Softwood		Hardwood		Total		Market Share (%)
	Volume	Value	Volume	Value	Volume	Value	
Total	**5,809.746 (86.1%)**	**414,257,244**	**936,642 (13.9%)**	**146,141,527**	**6,746,388 (100%)**	**560,398,771**	**100**
New Zealand	3,177,325	210,291,365	10,173	1,060,146	3,187,498	211,351,511	47.3
Russia	1,608,480	95,731,953	28,544	2,520,085	1,637,024	98,252,238	24.3
Australia	549,697	34,951,409	21,151	1,385,221	570,848	36,336,630	8.5
U.S.A.	321,167	58,629,735	30,754	18,577,604	351,921	77,207,339	5.2
Malaysia			319,731	51,478,664	319,731	51,478,664	4.7
Papua N. Gunea			315,725	38,033,168	315,725	38,033,168	4.7
Solomon	3,102	402,148	133,174	17,643,291	136,276	18,045,439	2.0
Chile	91,663	6,301,772	341	170,334	92,004	6,472,106	1.4
Canada	39,057	6,200,659	2,395	659,827	41,452	6,860,486	0.6
China	2,089	197,313	18,038	1,353,757	20,127	1,551,070	0.3
Gabon			14,185	3,245,132	14,185	3,245,132	0.2
Netherlands	10,195	701,113	45	43,128	10,240	744,241	0.2
Indonesia	1,729	109,149	3,901	747,150	5,630	856,299	0.1
G. Bissau			4,172	582,056	4,172	582,056	0.1
Cameroon			3,164	1,014,609	3,164	1,014,609	
France			2,992	1,023,127	2,992	1,023,127	
Japan	2,909	430,126	11	39,447	2,920	469,573	
South Africa			2,299	623,320	2,299	623,320	
Taiwan			2,207	983,460	2,207	983,460	
Hong Kong			2,103	258,640	2,103	258,640	
Ukraine	1,836	141,718			1,836	141,718	
Guinea			1,308	246,041	1,308	246,041	
Germany			1,239	661,048	1,239	661,048	
Viet Nam	100	26,200	725	185,433	825	211,633	
Congo	396	141,158	393	164,018	789	305,176	
Denmark			671	330,495	671	330,495	
Belgium			439	210,099	439	210,099	
Romania			245	112,763	245	112,763	
Turkey			120	98,000	120	98,000	
Myanmar			119	111,818	119	111,818	
Egypt			72	61,507	72	61,507	
Mexico			62	86,747	62	86,747	
Fiji			50	8,500	50	5,800	
U. Kingdom			44	15,786	44	15,786	
Slovak			41	19,656	41	19,656	
Mozambique			39	14,199	39	14,199	
Laos			30	20,461	30	20,461	
Zaire			23	35,295	23	35,295	
Tanzania			13	15,206	13	15,206	

Switzerland			9	23,988	9	23,988	
Portugal	1	1,298			1	1,298	
Other		128	15,895	2,278,301	15,895	2,278,429	

(Source: Korea Lumber Industry Cooperative)